Setup Guide

Matrix Switchers

IMPORTANT:
Refer to www.extron.com for the complete user guide, installation instructions, and specifications before connecting the product to the power source.

XTP CrossPoint 1600
XTP CrossPoint 3200

Configurable Digital Video Matrix Switchers

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

68-1736-50 Rev. D
01 14

Safety Instructions

Safety Instructions • English

WARNING: This symbol, ⚠, when used on the product, is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

ATTENTION: This symbol, △, when used on the product, is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the Extron Safety and Regulatory Compliance Guide, part number 68-290-01, on the Extron website, **www.extron.com**.

Instructions de sécurité • Français

AVERTISSEMENT: Ce pictogramme, ⚠, lorsqu'il est utilisé sur le produit, signale à l'utilisateur la présence à l'intérieur du boîtier du produit d'une tension électrique dangereuse susceptible de provoquer un choc électrique.

ATTENTION: Ce pictogramme, △, lorsqu'il est utilisé sur le produit, signale à l'utilisateur des instructions d'utilisation ou de maintenance importantes qui se trouvent dans la documentation fournie avec le matériel.

Pour en savoir plus sur les règles de sécurité, la conformité à la réglementation, la compatibilité EMI/EMF, l'accessibilité, et autres sujets connexes, lisez les informations de sécurité et de conformité Extron, réf. 68-290-01, sur le site Extron, **www.extron.com**.

Sicherheitsanweisungen • Deutsch

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VORSICHT: Dieses Symbol △ auf dem Produkt soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.

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Instrucciones de seguridad • Español

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Инструкция по технике безопасности • Русский

ПРЕДУПРЕЖДЕНИЕ: Данный символ, ⚠, если указан на продукте, предупреждает пользователя о наличии неизолированного опасного напряжения внутри корпуса продукта, которое может привести к поражению электрическим током.

ВНИМАНИЕ: Данный символ, △, если указан на продукте, предупреждает пользователя о наличии важных инструкций по эксплуатации и обслуживанию в руководстве, прилагаемом к данному оборудованию.

Для получения информации о правилах техники безопасности, соблюдении нормативных требований, электромагнитной совместимости (ЭМП/ЭДС), возможности доступа и других вопросах см. руководство по безопасности и соблюдению нормативных требований Extron на сайте Extron: **www.extron.com**, номер по каталогу - 68-290-01.

Chinese Simplified（简体中文）

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Japanese

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Korean

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주의: 이 기호 △, 가 제품에 사용될 경우, 장비와 함께 제공된 책자에 나와 있는 주요 운영 및 유지보수(정비) 지침을 경고합니다.

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This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. The Class A limits provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference; the user must correct the interference at his own expense.

ATTENTION: The Twisted Pair Extension technology works with unshielded twisted pair (UTP) or shielded twisted pair (STP) cables; but, to ensure FCC Class A and CE compliance, STP cables and STP Connectors are required.

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Conventions Used in this Guide

Notifications

The following are used:

ATTENTION: Attention indicates a situation that may damage or destroy the product or associated equipment.

NOTE: A note draws attention to important information.

Software Commands

Commands are written in the fonts shown here:

```
^AR Merge Scene,,Op1 scene 1,1 ^B 51 ^W^C
```

```
[Ø1] R Ø004 ØØ3ØØ ØØ4ØØ ØØ8ØØ ØØ6ØØ [Ø2] 35 [17] [Ø3]
```

Esc X1 * X8 * X35 * X37 * X36 CE ←

NOTE: For commands and examples of computer or device responses mentioned in this guide, the character "Ø" is used for the number zero and "O" is the capital letter "o."

Computer responses and directory paths that do not have variables are written in the font shown here:

```
Reply from 2Ø8.132.18Ø.48: bytes=32 times=2ms TTL=32
```

```
C:\Program Files\Extron
```

Variables are written in slanted form as shown here:

```
ping xxx.xxx.xxx.xxx –t
```

```
SOH R Data STX Command ETB ETX
```

Selectable items, such as menu names, menu options, buttons, tabs, and field names are written in the font shown here:

From the **File** menu, select **New**.

Click the **OK** button.

Specifications Availability

Product specifications are available on the Extron website, **www.extron.com**.

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Introduction

This section gives an overview of the configurable Extron XTP CrossPoint 1600 and XTP CrossPoint 3200 Series and describes their features. Topics that are covered include:

- **About this Guide**
- **About the XTP CrossPoint Matrix Switchers**

About this Guide

NOTE: For more information on any subject in this guide, see the *XTP CrossPoint 1600 and 3200 Series User Guide*, available on the Extron DVD or at **www.extron.com**.

This setup guide helps you to easily and quickly set up and configure your XTP CrossPoint 1600 and 3200 switcher. Step by step instructions show you how to:

- **Install the input and output boards**
- **Connect the hardware**
- **Perform basic operations**
- Use both the **front panel controls** and **selected Simple Instruction Set (SIS) commands**
- **Connect to the built-in HTML pages**, which you can use to operate the switcher
- **Reconfigure** the switcher by adding or removing boards

About the XTP CrossPoint Matrix Switchers

The XTP CrossPoint matrix switchers (see **figure 1**, on the next page) distribute and transcode signals in a variety of video and audio formats, identified by the input and output boards installed, defined in **table 1**, on the next page. The matrix switcher routes an input signal of a format supported by an installed input board to any combination of outputs with formats supported by installed output boards. The matrix switcher can route multiple input-to-output configurations simultaneously.

Table 1. Available Input and Output Boards

Input Boards	Output Boards
XTP CP 4i (twisted pair [TP] inputs)	**XTP CP 4o** (TP outputs)
XTP CP 4i HDMI (HDMI inputs)	**XTP CP 4o HDM**I (HDMI outputs)
XTP CP 4i DVI Pro (DVI Pro inputs)	**XTP CP 4o DVI Pro** (DVI Pro outputs)
	XTP CP 4o SA (stereo analog audio outputs)
XTP CP 4i VGA (universal analog inputs)	

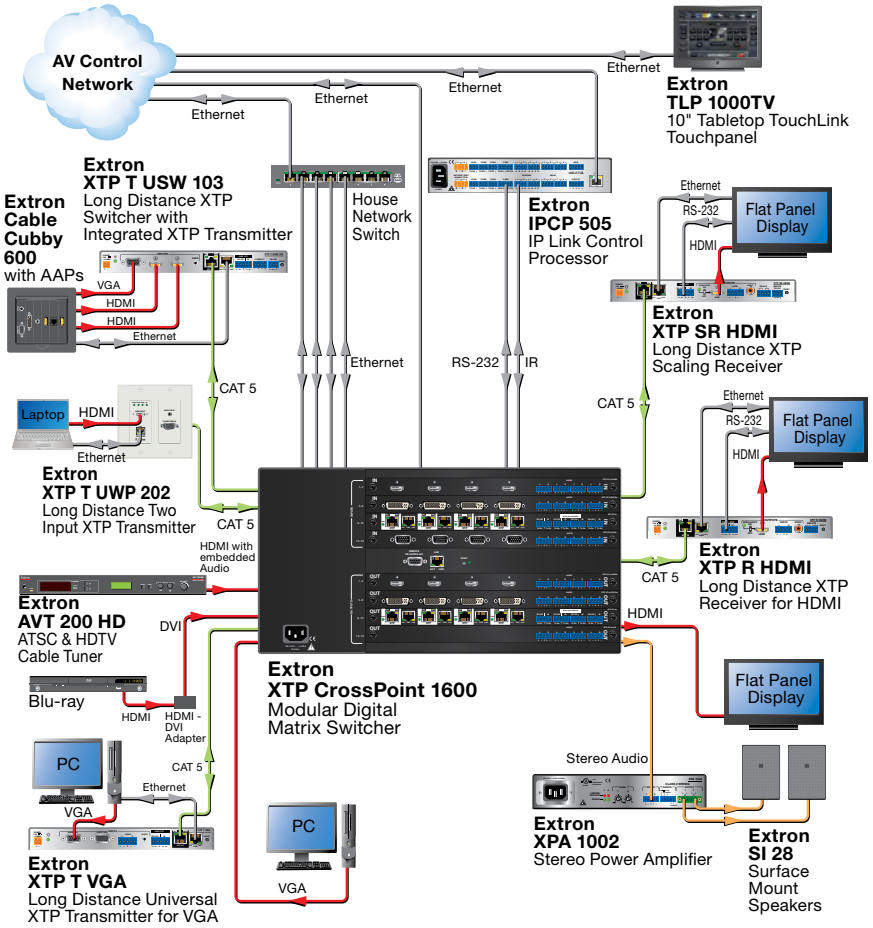


Figure 1. Typical XTP CrossPoint Application

The XTP CrossPoint models are assembled from user-installed and hot-swappable input and output boards. Table 1, on the previous page, identifies the four types of input boards and four types of output boards currently available, each of which can receive (input boards) or output (output boards) up to four signals (see **Inputs and Outputs** on page 6 for details).

The XTP CrossPoint 1600 can support up to four input boards and four output boards of any of the type listed in table 1, for a total of 16 inputs and 16 outputs.

The XTP CrossPoint 3200 can support up to eight input boards and eight output boards of any of the type listed in table 1, for a total of 32 inputs and 32 outputs.

The matrix switcher can be remotely controlled via an Ethernet LAN port, serial port, or USB port connection using either the Extron XTP System Configuration Software or the Simple Instruction Set (SIS).

Endpoint Configuration

In an XTP system, the transmitters connected to the input boards and the receivers connected to the output boards are known as "endpoints".

When you configure an XTP system (consisting of an XTP CrossPoint Matrix switcher and its connected endpoints), connect a computer to the matrix switcher and configure the endpoints from the matrix switcher.

Do **not** connect the computer directly to the endpoint for configuration when it is part of an XTP system.

Swapping Boards and Endpoints

When you replace an input board, an output board, or an endpoint, the matrix switcher automatically applies the settings to the new device. If the stored settings are incompatible with the newly installed device, the matrix switcher applies a default configuration.

Installation

This section describes installation of the XTP CrossPoint matrix switchers, including connections and features. Topics that are covered include:

- **Rear Panel**
- **Front Panel**

Rear Panel

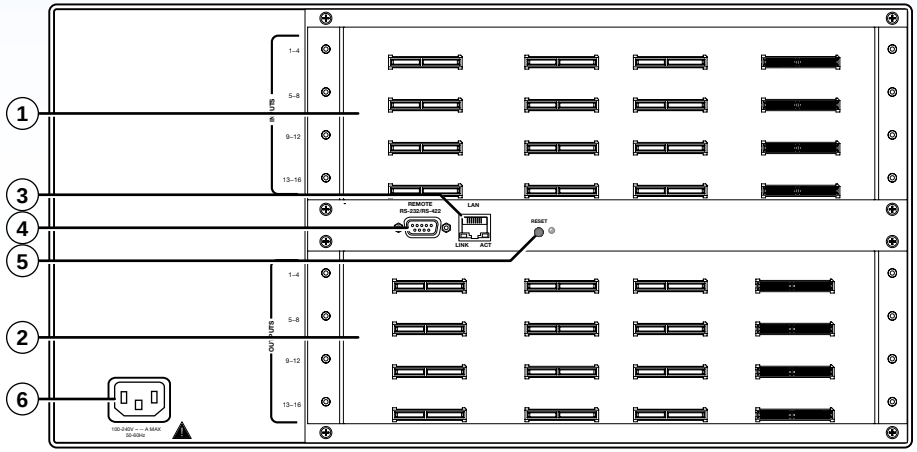


Figure 2. XTP CrossPoint 1600 Switcher Rear Panel

I/O Board Configuration Overview

As shown in figure 2 and **figure 3**, all input boards are installed in one block or space and all output boards are installed in a separate space. Each individual input board or output board position is identified by the input or output numbers supported by the position. The position designators identify the input or output numbers in that position (1 - 4, 5 - 8, and so on).

On the XTP CrossPoint 1600, boards are installed horizontally, all input boards in the top space and all output boards in the bottom space. Input or output positions are 1 - 4 on top and 13 - 16 on the bottom in their respective space.

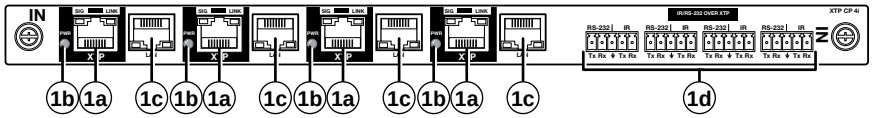
On the XTP CrossPoint 3200, boards are installed vertically, all input boards in the left space and all output boards in the right space. Input or output positions are 1 - 4 to the left and 29 - 32 to the right in their respective space.

ATTENTION: Turn off power to the input and output devices, and disconnect their power cords before making connections.

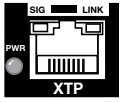
Inputs and Outputs

① **Input boards space** — Make connections to installed input boards as desired.

XTP CP 4i (XTP input board)



①a **XTP input connectors** — Connect a TP cable between a compatible Extron XTP transmitter and this connector (see **TP connectors** on page 12 to wire the connectors).



ATTENTION: Do not connect this device to a computer data or telecommunications network.

①b **XTP power indicators** — Light or blink to indicate the status of the power over XTP that the input board is providing to the transmitter endpoint as follows:

Lit green — The board is providing XTP power to the endpoint.

Lit amber — XTP power is available for the endpoint, but it is disabled in the matrix switcher.

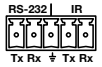
Flashing amber — No XTP power is available for the endpoint, but it is enabled in the matrix switcher.

Lit red — A wiring fault exists.

Unlit — The endpoint is not capable of receiving power over XTP.

①c **LAN connectors** — As desired, connect a TP cable between a host device or control LAN and this connector for passive extension to the LAN (Ethernet) connector on the connected endpoint (see **TP connectors** on page 12 to wire the connector).

①d **RS-232/IR Over XTP connectors** — If desired, connect serial RS-232 signals, modulated IR signals, or both to these 3.5 mm, 5-pole captive screw connectors for bidirectional RS-232 and IR communications on the associated inputs (see **RS-232 and IR connectors** on page 14 to wire the connectors).



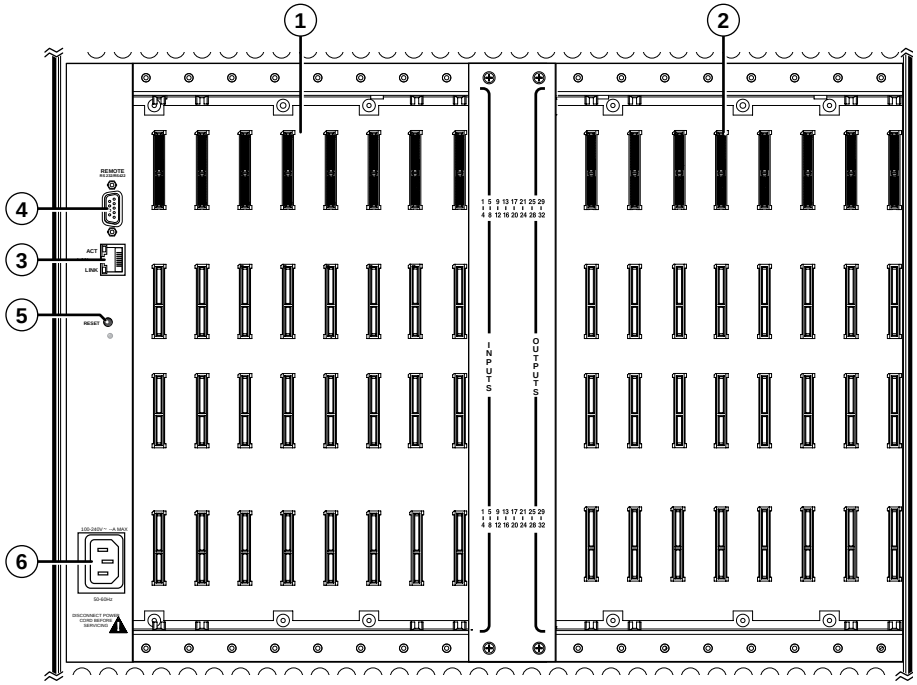
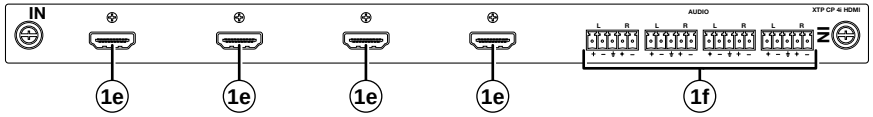


Figure 3. Active Portion of XTP CrossPoint 3200 Switcher Rear Panel

XTP CP 4i HDMI (HDMI input board)

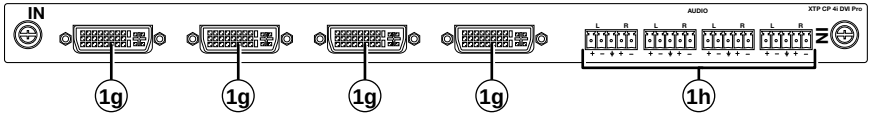


①e **HDMI connectors** — Connect up to four HDMI cables between these ports and the HDMI output port of the digital video sources.

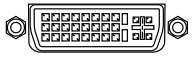
NOTE: See **HDMI connectors** on page 14 to secure the connector to the board with a LockIt HDMI Cable Lacing Bracket.

①f **Audio (local audio) connectors** — Connect balanced or unbalanced stereo audio inputs to these 3.5 mm, 5-pole captive screw connectors (see **Local audio connectors** on page 15 to wire the connectors).

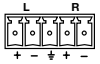
XTP CP 4i DVI Pro (DVI Pro input boards)



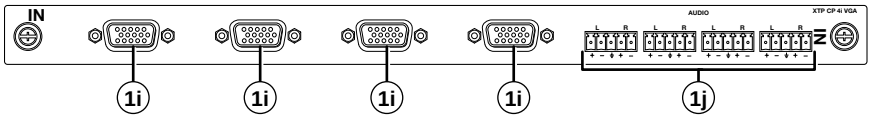
1g **DVI connectors** — Connect up to four DVI cables between these ports and the DVI output port of the digital video sources.



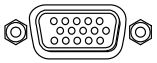
1h **Audio (local audio) connectors** — Connect balanced or unbalanced stereo audio inputs to these 3.5 mm, 5-pole captive screw connectors (see **Local audio connectors** on page 15 to wire the connectors).



XTP CP 4i VGA (Universal analog video input boards)

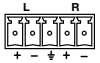


1i **VGA connectors** — Connect up to four VGA cables between these ports and the analog audio output port of the video sources.



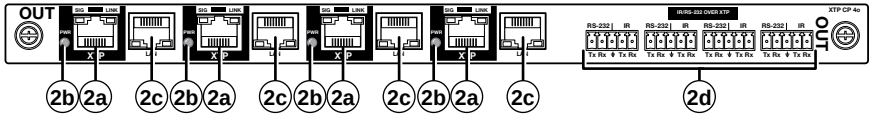
NOTE: These universal analog video boards can accept RGB video and (with adapters) component video, S-video, and composite video (see **Analog video connectors** on page 15 to wire the connectors for various analog video formats).

1j **Audio (local audio) connectors** — Connect balanced or unbalanced stereo audio inputs to these 3.5 mm, 5-pole captive screw connectors (see **Local audio connectors** on page 15 to wire the connectors).

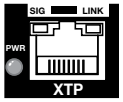


2 **Output boards space** — Make connections to installed output boards as desired.

XTP CP 4o (XTP output board)



2a **XTP output connectors** — Connect a TP cable between this connector and a compatible Extron XTP receiver (see **TP connectors** on page 12 to wire the connector).



2b **XTP power indicators** — Light or blink to indicate the status of the power over XTP that the output board is providing to the receiver endpoint as follows:

Lit green — The board is providing XTP power to the endpoint.

Lit amber — XTP power is available for the endpoint, but it is disabled in the matrix switcher.

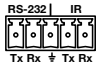
Flashing amber — No XTP power is available for the endpoint, but it is enabled in the matrix switcher.

Lit red — A wiring fault exists.

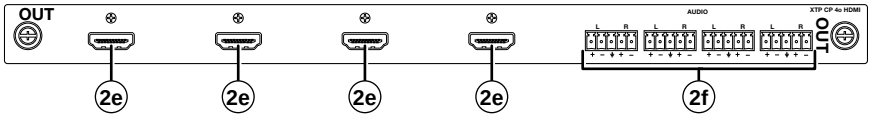
Unlit — The endpoint is not capable of receiving power over XTP.

2c **LAN connectors** — As desired, connect a TP cable between a host device or control LAN and this connector for passive extension to the LAN (Ethernet) connector on the connected endpoint (see **TP connectors** on page 12 to wire the connector).

2d **RS-232/IR Over XTP connectors** — If desired, connect serial RS-232 signals, modulated IR signals, or both to these 3.5 mm, 5-pole captive screw connectors for bidirectional RS-232 and IR communications on the associated inputs (see **RS-232 and IR connectors** on page 14 to wire the connectors).



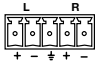
XTP CP 4o HDMI (HDMI output board)



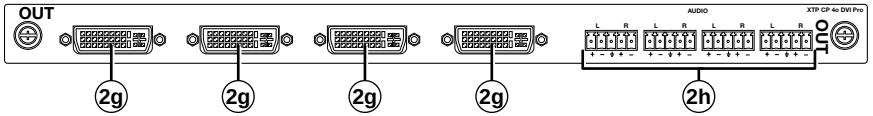
2e **HDMI connectors** — Connect an HDMI video display to each of these ports.

NOTE: See **HDMI connectors** on page 14 to secure the connector to the board with a LockIt HDMI Cable Lacing Bracket.

2f **Audio (local audio) connectors** — Connect audio devices, such as audio amplifiers or powered speakers to these 3.5 mm, 5-pole captive screw connectors to receive unamplified, line level audio (see **Local audio connectors** on page 15 to wire the connectors).

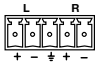


XTP CP 4o DVI Pro (DVI Pro output board)



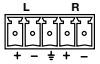
2g **DVI connectors** — Connect a DVI video display to each of these ports.

2h **Audio (local audio) connectors** — Connect audio devices, such as audio amplifiers or powered speakers to these 3.5 mm, 5-pole captive screw connectors to receive unamplified, line level audio (see **Local audio connectors** on page 15 to wire the connectors).



XTP CP 4o SA (Analog audio output board)

2i **Audio (local audio) connectors** — Connect audio devices, such as audio amplifiers or powered speakers to these 3.5 mm, 5-pole captive screw connectors to receive unamplified, line level audio (see **Local audio connectors** on page 15 to wire the connectors).



Remote Control

3 **LAN (Ethernet) port** — If desired, connect a network WAN or LAN hub, a control system, or a computer to the Ethernet RJ-45 port (see **TP connectors** on page 12 to wire the connector).

NOTE: The factory default IP address is 192.168.254.254.

4 **Remote RS-232/RS-422 port** — If desired, connect a third-party control system or computer to the rear panel Remote RS-232/RS-422 port (see **Remote port connector** on page 16 to wire the connectors).

NOTE: The XTP System Configuration software **CANNOT** interface with the switcher via the Remote RS-232/RS-422 port. A third-party control system or a computer issuing SIS commands can use this port.

Reset

5 **Reset button** — Initiates four levels of reset of the matrix switcher. For different reset levels, press and hold the recessed button while the switcher is running or while you power up the switcher.

See the *XTP CrossPoint 1600 and 3200 Series User Guide*, available on the Extron DVD or at **www.extron.com**.

Power

6 **Power connectors** — Plug the switcher into a grounded AC source.

Additional Connector Information

TP connectors

All LAN ports, whether on XTP boards or the switcher Ethernet port use Category (CAT) 5e, CAT 6a, or CAT 7 unshielded twisted pair (UTP) or shielded twisted pair (STP) cables.

The XTP ports are compatible with Extron XTP DTP 24 SF/UTP cables, as well as CAT 5e, 6, 6a, and 7 shielded twisted pair (F/UTP, SF/UTP, and S/FTP) and unshielded twisted pair (U/UTP) cable.

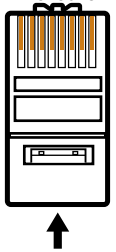
Both TP cable types are terminated with RJ-45 connections. Cables are limited to a length of 330 feet (100 m).

NOTES:

- For XTP connections, Extron recommends 24 AWG, solid conductor, shielded cable, with a minimum bandwidth of 400 MHz.
- Do not stretch or bend cables. Transmission errors can occur.

The switcher LAN port and the LAN ports on the input and output boards support both 10 Mbps (10Base-T — Ethernet) and 100 Mbps (100Base-T — Fast Ethernet), half-duplex and full-duplex Ethernet connections. Both Ethernet speeds require CAT 5e cable at minimum.

The TP cable can be terminated as a straight-through cable or a crossover cable for the LAN port and must be properly terminated for your application (see figure 4).



Crossover Cable

Pin	End 1 Wire color	End 2 Wire color
1	White-green	White-orange
2	Green	Orange
3	White-orange	White-green
4	Blue	Blue
5	White-blue	White-blue
6	Orange	Green
7	White-brown	White-brown
8	Brown	Brown
	T568A	T568B

A cable that is wired as T568A at one end and T568B at the other (Tx and Rx pairs reversed) is a "crossover" cable.

Straight-through Cable

Pin	End 1 Wire color	End 2 Wire color
1	White-orange	White-orange
2	Orange	Orange
3	White-green	White-green
4	Blue	Blue
5	White-blue	White-blue
6	Green	Green
7	White-brown	White-brown
8	Brown	Brown
	T568B	T568B

A cable that is wired the same at both ends is called a "straight-through" cable, because no pin/pair assignments are swapped.

Figure 4. RJ-45 Connector and Pinout Tables

Switcher and XTP board LAN cables

The LAN ports require CAT 3, CAT 5e, or CAT 6a, crossover or patch cables.

XTP board XTP cables

ATTENTION:

- Do not connect these boards to a computer data or telecommunications network.
- Do not use Extron UTP23SF-4 Enhanced Skew-Free AV UTP cable or STP201 cable to link the XTP products.
- To ensure FCC Class A and CE compliance, STP cables and STP connectors are required.

Extron recommends using the following practices to achieve full transmission distances up to 330 feet (100 m) and reduce transmission errors.

Use the following Extron XTP DTP 24 SF/UTP cables and connectors for the best performance:

XTP DTP 24/1000	Non-Plenum 1000' (305 m) spool	22-236-03
XTP DTP 24P/1000	Plenum 1000' (305 m) spool	22-235-03
XTP DTP 24 Plug	Package of 10	101-005-02

If not using XTP DTP 24 cable, at a minimum, Extron recommends 24 AWG, solid conductor, STP cable with a minimum bandwidth of 400 MHz.

Terminate cables with shielded connectors to the TIA/EIA T568B standard only (patch cables, see **figure 4** on the previous page).

Limit the use of more than two pass-through points, which may include patch points, punch down connectors, couplers, and power injectors. If these pass-through points are required, use CAT 6 or 6a shielded couplers and punch down connectors.

NOTE: When using cable in bundles or conduits, consider the following:

- Do not exceed 40% fill capacity in conduits.
- Do not comb the cable for the first 20 m, where cables are straightened, aligned, and secured in tight bundles.
- Loosely place cables and limit the use of tie wraps or hook and loop fasteners.
- Separate twisted pair cables from AC power cables.

RS-232 and IR connectors

Figure 5 shows how to wire the RS-232 and IR connector.

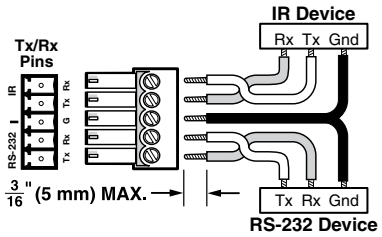


Figure 5. RS-232 and IR Connector Wiring

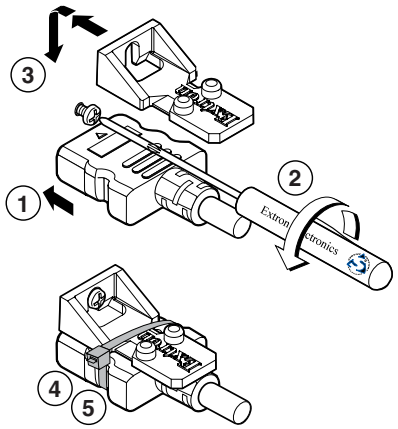
NOTES:

- The length of exposed wires is critical. The ideal length is 3/16 inch (5 mm).
  - If the stripped section of wire is longer than 3/16 inch, the exposed wires may touch, causing a short circuit.
  - If the stripped section of wire is shorter than 3/16 inch, wires can be easily pulled out even if tightly fastened by the captive screws.
- Do not tin the power supply leads before installing them in the connector. Tinned wires are not as secure in the connector and could be pulled out.

HDMI connectors

Use a LockIt Lacing Bracket to securely fasten each HDMI cable to the switcher as follows.

1. Plug the HDMI cable into the panel connection.
2. Loosen the HDMI connection mounting screw from the panel enough to allow the LockIt lacing bracket to be placed over it. The screw does not have to be removed.
3. Place the LockIt lacing bracket on the screw and against the HDMI connector, then tighten the screw to secure the bracket.



ATTENTION: Do not overtighten the HDMI connector mounting screw. The shield it fastens to is very thin and can easily be stripped.

4. Loosely place the included tie wrap around the HDMI connector and the LockIt lacing bracket as shown.
5. While holding the connector securely against the lacing bracket, use pliers or similar tool to tighten the tie wrap, then remove any excess length.

Local audio connectors

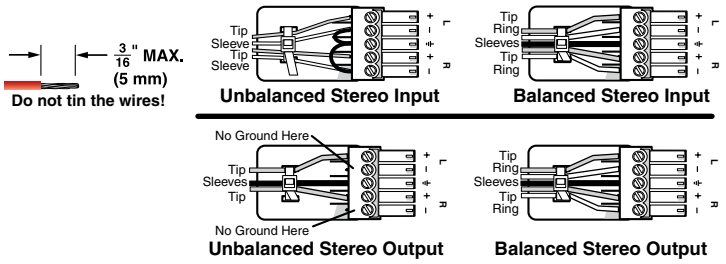


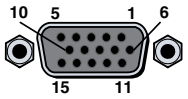
Figure 6. Audio Input and Output Connector Wiring

ATTENTION: For unbalanced audio output, connect the sleeves to the ground contact. **DO NOT** connect the sleeves to the negative (-) contacts.

NOTE: The length of exposed wires is critical (see the RS-232 connector **NOTES** on page 14 for more information).

Analog video connectors

The universal analog video boards can accept RGB video and (with adapters) component video, S-video, and composite video (see figure 7).



Pin	Function	Pin	Function	Pin	Function
1	Red video	6	Red return	11	Monitor ID bit
2	Green video	7	Green return	12	Monitor ID bit
3	Blue video	8	Blue return	13	H. sync
4	Monitor ID bit	9	Not used	14	V. sync
5	H. sync return	10	V. sync return	15	Monitor ID bit

Figure 7. Analog Video Connector Wiring

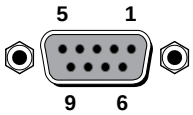
For component video, use the R (R-Y) and R return pins (pins 1 and 6), G (Y) and G return pins (pins 2 and 7), and B (B-Y) and B return pins (pins 3 and 8).

For S-video, use the B, B return (C-chroma), G, and G return (Y-luma) pins.

For composite video, use the G pin and the associated return pin.

Input only sync signals, no video signals, on the sync pins, 13 and 14.

Remote port connector



Pin	RS-232	Function	RS-422	Function
1	—	Not used	—	Not used
2	Tx	Transmit	Tx–	Transmit (–)
3	Rx	Receive	Rx–	Receive (–)
4	—	Not used	—	Not used
5	Gnd	Ground	Gnd	Ground
6	—	Not used	—	Not used
7	—	Not used	Rx+	Receive (+)
8	—	Not used	Tx+	Transmit (+)
9	—	Not used	—	Not used

Figure 8. Remote RS-232/RS-422 Output Connector Wiring

Front Panel

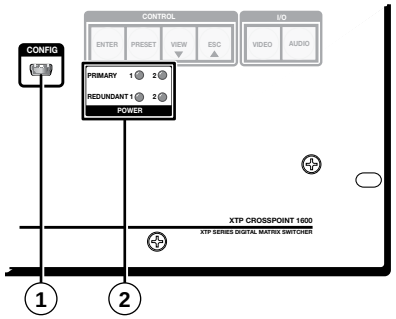


Figure 9. Front Panel Features

① **Configuration port** — If desired, connect a control system or computer to the front panel Configuration port, a mini USB B port.

② **Primary and Redundant Power Supply LEDs** —

NOTES:

- The XTP CrossPoint 3200 has four power supplies installed and indicated.
- The XTP CrossPoint 1600 has two power supplies installed and indicated in its standard configuration (only two LEDs lit). It is available in a four-power-supply, redundant power upgrade configuration, in which it indicates all four supplies.

Green — Indicates that the associated power supply is operating within normal tolerances.

Red — Indicates that the associated power supply is operating outside the normal tolerances or has failed.

Front Panel Operations

This section describes simple XTP CrossPoint matrix switcher operation from the front panel. Topics that are covered include:

- Creating a Tie
- Saving or Recalling a Preset
- Setting the Front Panel Locks (Executive Modes)
- Viewing and Adjusting the Audio Level
- Viewing Ties (and Muting Outputs)

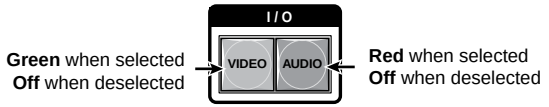
Creating a Tie

A "tie" is an input-to-output connection.

A "set of ties" is an input tied to two or more outputs. (An output can never be tied to more than one input.)

A "configuration" is one or more ties, one or more sets of ties, or a combination.

1. Press and release the Esc button to clear any input button, output button, or control button indicators that may be lit.
2. Press and release the Video and Audio I/O buttons to select or deselect video, audio, or both as desired.



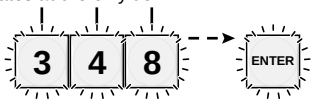
NOTE: Audio or video can be broken away (tied by itself) by selecting only the Video button or only the Audio button.

3. Press and release the desired input button.

The button lights to indicate the selection.

4. Press and release the desired output buttons.

Amber indicates **video** and **audio** tie.
Green indicates **video** only tie.
Red indicates **audio** only tie.

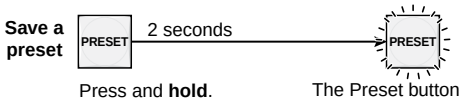


5. Press and release the Enter button. All button indicators turn off.

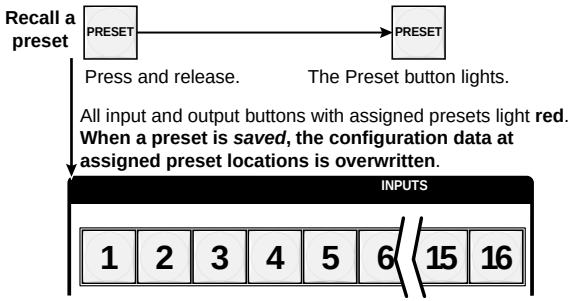
Saving or Recalling a Preset

A "preset" is a configuration that has been stored.

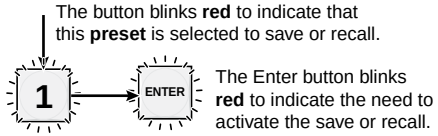
1. **Save a preset** — Press and hold the Preset button until it flashes.



Recall a preset — Press and release the Preset button.



2. Press and release the desired input or output button.


The button blinks red to indicate that this preset is selected to save or recall.
1
ENTER
The Enter button blinks red to indicate the need to activate the save or recall.

3. Press and release the Enter button.

Setting the Front Panel Locks (Executive Modes)

The matrix switcher has three levels of front panel security lock that limit the operation of the switcher from the front panel. The three levels are:

- **Lock mode 0** — The front panel is completely unlocked.
- **Lock mode 1** — All functions are locked from the front panel (except for setting Lock mode 2). Some functions can be viewed.
- **Lock mode 2** — Basic functions are unlocked. Advanced functions are locked and can be viewed only.

Basic functions consist of:

- Making ties
- Saving and recalling presets
- Setting input audio gain and attenuation
- Changing Lock modes

Advanced functions consist of:

- Setting audio output mutes
- Setting audio output volume
- Setting audio/RS-232 wire pair and front panel configuration

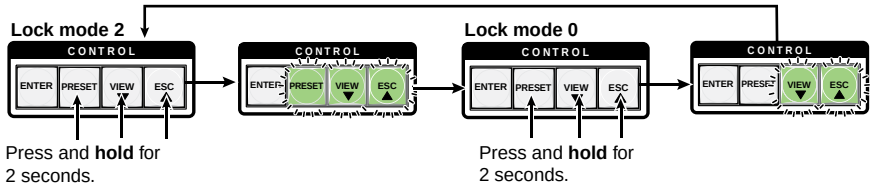
The switcher is shipped from the factory in Lock mode 2.

Selecting Lock Mode 2 or Toggling Between Mode 2 and Mode 0

NOTES:

- If the switcher is in Lock mode 0 or mode 1, this procedure selects mode 2. The Preset, View, and Esc buttons flash twice.
- If the switcher is in Lock mode 2, this procedure selects mode 0 (unlocks the switcher). The View and Esc buttons flash twice.

Toggle the lock on or off by pressing and holding the Preset, View, and Esc buttons simultaneously until the buttons flash (approximately 2 seconds).

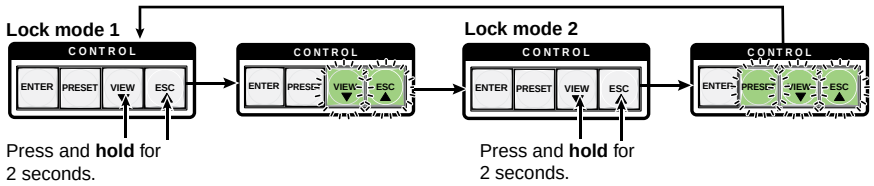


Selecting Lock Mode 2 or Toggling Between Mode 2 and Mode 1

NOTES:

- If the switcher is in Lock mode 0 or mode 1, this procedure selects mode 2. The Preset, View, and Esc buttons flash twice.
- If the switcher is in Lock mode 2, this procedure selects mode 1. The View and Esc buttons flash twice.

Toggle the lock on and off by pressing and holding the Video button and the Audio button simultaneously for approximately 2 seconds.

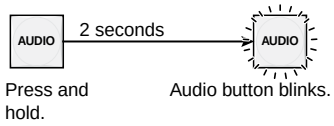


Viewing and Adjusting the Audio Level

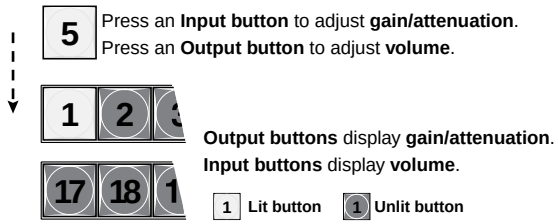
NOTES:

- Gain and attenuation can be adjusted for local inputs only.
- Volume can be adjusted for the local outputs only.

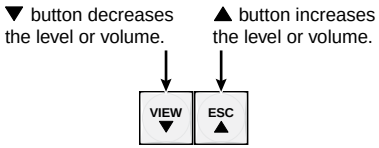
1. Press and hold the Audio button until it flashes.



2. Press an input or output button. See the "Operation" section of the *XTP CrossPoint 1600 and 3200 Series User Guide* to read the displayed value.



3. Increase/decrease the level or volume by pressing the Esc (▲) and View (▼) buttons.



4. Press and release the Audio button to exit.

Viewing Ties (and Muting Outputs)

1. Press the View button. Output buttons light for outputs that have no ties established.

NOTE: If an output button blinks, that output is muted. *To toggle mute on and off*, press and hold the output button for 2 seconds.

2. Press an input button. The buttons for all tied outputs light.
3. Press an output button. The buttons for the tied input and all tied outputs light.
4. Press the View button again to exit View mode. All input and output buttons return to an unlit state.

Remote Control

This section describes using the remote control features of the XTP CrossPoint matrix switchers to control the devices. Topics that are covered include:

- **Selected SIS Commands**
- **XTP System Configuration Program**
- **Accessing the HTML Pages**

Selected SIS Commands

You can use Simple Instruction Set (SIS) commands for operation and configuration of the switchers (see **SIS Command and Response Table for Matrix Switcher Commands** on page 24). You can also use these commands to configure the endpoints (see the various command and response tables for endpoint SIS commands, beginning on **page 35**). You can run these commands from a PC connected to the Ethernet port (**item** ③ on page 11), serial port (**item** ④ on page 11), or USB port (**item** ① on page 16) on the switcher.

Establishing a Network (Ethernet) Connection

NOTE: The first time you connect to the switcher via the LAN port, you may need to change the default settings (IP address, subnet mask, and [optional] administrator name and password) of the controller.

Establish a network connection as follows:

1. Open a TCP socket to port 23 using the IP address of the switcher.

NOTE: The factory default IP address is 192.168.254.254.

The switcher responds with a copyright message including the name, firmware version, and part number of the product, and the current date and time.

NOTES:

- If the switcher is not password-protected, the device is now ready to accept SIS commands.
- If the switcher is password-protected, a `password` prompt appears.

2. If necessary, enter the appropriate password.

   If the password is accepted, the switcher responds with `Login User` or `Login Administrator`.

   If the password is not accepted, the `Password` prompt reappears.

Number of Connections

A switcher can have up to 200 simultaneous TCP connections, including all HTTP sockets and Telnet connections. When the connection limit is reached, the switcher accepts no new connections until some have been closed. No error message or indication is given that the connection limit has been reached. To maximize the performance of your switcher, keep the number of connections low and close unnecessary open sockets.

Establishing a USB Port Connection

A standard USB cable and the Extron DataViewer utility, version 2.0 or newer, can be used for connection to the XTP CrossPoint matrix switcher Configuration port. The USB cable, available at any local electronics store, should be terminated on one end with a mini USB B male connector.

NOTE: Before you use the USB port for the first time, install the USB driver on your computer. The simplest way to do this is to install the XTP System Configuration software and then run the Found New Hardware Wizard.

Host-to-Switcher Instructions

The switcher accepts SIS commands through its serial port, its USB port, or its LAN port. SIS commands consist of one or more characters per command field. They do not require any special characters to begin or end the command character sequence. Each switcher response to an SIS command ends with a carriage return and a line feed (CR/LF = ↵), which signals the end of the response character string. A string is one or more characters.

NOTE: The tables that begin on the next page are a partial list of SIS commands. For a complete listing, see the *XTP CrossPoint 1600 and 3200 Series User Guide*.

Common SIS Command Symbols

The following symbols are used throughout the command and response tables, which start on **page 24**:

• = Space
↵ = Carriage return and line feed
← = Carriage return (no line feed)
| = Pipe (can be used interchangeably with the ← character)
Esc = Escape key (hex 1B)
W = Can be used interchangeably with the Esc character

Arrangement of Command and Response Tables

The following pages present five command and response tables, each defining a subset of SIS commands and their responses, with examples where appropriate. The following tables are presented:

- **SIS Command and Response Table for Matrix Switcher Commands**, starting on the next page — SIS commands to control and monitor the XTP CrossPoint switcher itself and specific input and output boards
- **SIS Command and Response Table for XTP T HDMI**, starting on page 35 — SIS commands to control and monitor the XTP T HDMI transmitter endpoint from the matrix switcher
- **SIS Command and Response Table for XTP R HDMI and XTP SR HDMI**, starting on page 37 — SIS commands to control and monitor the XTP R HDMI and XTP SR HDMI receiver endpoints from the matrix switcher
- **SIS Command and Response Table for XTP T USW 103**, starting on page 40 — SIS commands to control and monitor the XTP T USW 103 switcher endpoint from the matrix switcher
- **SIS Command and Response Table for IP-Specific Commands**, starting on page 43 — SIS commands to control and monitor the IP interface of the XTP CrossPoint matrix switcher

SIS Command and Response Table for Matrix Switcher Commands

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
Create ties			
NOTES: • Commands can be entered back-to-back in a string, with no spaces. For example: 1*1!Ø2*Ø2&ØØ3*ØØ3%4*24$. • The matrix switchers support 1-, 2-, and 3-digit numeric entries (1*1!, Ø2*Ø2&, or ØØ3*ØØ3%). • The **& tie** command for RGB and the **% tie** command for video can be used interchangeably, as can the **& read tie** command for RGB and the **% read tie** command for video. • Audio breakaway command functions are dependent on the audio routing selections of the inputs and outputs.			
Tie input X1 video and audio to output X2	X1*X2!	OutX2•InX1•All↵	Tie the video and audio from input X1 to output X2.
Example:	1*3!	Out Ø3•InØ1•All↵	Tie input 1 to output 3.
Tie input X1 to output X2, RGBHV	X1*X2&	OutX2•InX1•RGB↵	Tie input X1 RGB to output X2. Audio is broken away.
Example (see Notes, above):	1Ø*4&	Out Ø4•In1Ø•RGB↵	Tie input 10 RGB to output 4.
Tie input X1 to output X2, video	X1*X2%	OutX2•InX1•Vid↵	Tie input X1 video to output X2. Audio is broken away.
Example (see Notes, above):	7*5%	Out Ø5•InØ7•Vid↵	Tie input 7 video to output 5.
Tie input X1 to output X2, audio	X1*X2$	OutX2•InX1•Aud↵	Tie input X1 audio to output X2. Audio is broken away.
Example (see Notes, above):	24*Ø4$	Out Ø4•In24•Aud↵	Tie input 24 audio to output 4.
Tie input X1 to all outputs	X1*!	InX1All↵	X1*&, X1*%, and X1*$ are also valid.
Quick multiple tie	Esc+QX1*X2!...X1*X2$←	Qik↵	Enter multiple tie commands (!, &, %, and $) before the ←.
Read output tie	X2&	X1↵	RGBHV input X1 is tied to output X2. X2&, X2%, and X2$ are also valid.

NOTE: • = Space
X1 = Input number ØØ – 16 or 32 (ØØ = untied)
X2 = Output number Ø1 – 16 or 32

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
Input video format (available for inputs on an XTP CP 4i VGA universal analog input board only)			
Set format	X1*X3\	ItypX1*X3*X4↵	Set input X1 to X3 video format. The board reports the detected video format, X4, in response.
Example:	1*Ø\	Ityp1*Ø*5↵	Set input 1 to auto. The board reports RGB video.
View format	X1\	X3*X4↵	Show set (X3) and detected (X4) video format for input X1.
Image reset (available for inputs on an XTP CP 4i VGA universal analog input board only)			
Execute an image reset	X1A	AadjX1↵	Reset input signal timing to Extron default for input X1.
Color (available for inputs on an XTP CP 4i VGA universal analog input board only)			
NOTE: Color adjustments are available for RBGcvS (SCART), interlaced component video (YUVi), S-video, and NTSC composite video inputs.			
Set a specific color value	EscIX1*X5COLR←	ColrIX1*X5↵	Specify the color adjustment.
Increment color value	EscIX1+COLR←	ColrIX1*X5↵	Increase the color setting by one.
Decrement color value	EscIX1–COLR←	ColrIX1*X5↵	Decrease the color setting by one.
View the color value	EscIX1COLR←	X5↵	Show the color setting.

NOTE:
X1 = Input number Ø1 – 16 or 32
X3 = Set input video format Ø = Auto; 1 = Video; 2 = S-video; 3 = SCART; 4 = YUV interlace; 5 = RGB; 6 = YUV
X4 = Detected video format Identical to X3, above, except Ø = no signal.
X5 = Picture adjustments Ø through 255

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
Tint (available for inputs on an XTP CP 4i VGA universal analog input board only)			
NOTE: Tint adjustments are available for NTSC S-video, and NTSC composite video inputs.			
Set a specific tint value	Esc I X1 * X5 TINT ←	TintI X1 * X5 ↵	Specify the tint adjustment.
Increment tint value	Esc I X1 + TINT ←	TintI X1 * X5 ↵	Increase the tint setting by one.
Decrement tint value	Esc I X1 – TINT ←	TintI X1 * X5 ↵	Decrease the tint setting by one.
View the tint value	Esc I X1 TINT ←	X5 ↵	Show the tint setting.
Brightness (available for inputs on an XTP CP 4i VGA universal analog input board only)			
NOTE: Brightness adjustments are available for RBGcvS (SCART), interlaced component video (YUVi), S-video, and NTSC composite video inputs.			
Set a specific brightness value	Esc I X1 * X5 BRIT ←	BritI X1 * X5 ↵	Specify the brightness adjustment.
Increment brightness value	Esc I X1 + BRIT ←	BritI X1 * X5 ↵	Increase the brightness.
Decrement brightness value	Esc I X1 – BRIT ←	BritI X1 * X5 ↵	Decrease the brightness.
View the brightness value	Esc I X1 BRIT ←	X5 ↵	Show the brightness setting.
Contrast (available for inputs on an XTP CP 4i VGA universal analog input board only)			
NOTE: Contrast adjustments are available for RBGcvS (SCART), interlaced component video (YUVi), S-video, and NTSC composite video inputs.			
Set a specific contrast value	Esc I X1 * X5 CONT ←	ContI X1 * X5 ↵	Specify the contrast adjustment.
Increment contrast value	Esc I X1 + CONT ←	ContI X1 * X5 ↵	Increase the contrast.
Decrement contrast value	Esc I X1 – CONT ←	ContI X1 * X5 ↵	Decrease the contrast.
View the contrast value	Esc I X1 CONT ←	X5 ↵	Show the contrast setting.

NOTE: X1 = Input number Ø1 – 16 or 32
X5 = Picture adjustments Ø through 255

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
Pixel phase (available for inputs on an XTP CP 4i VGA universal analog input board only)			
NOTE: Pixel phase adjustments are available for RBGHV and non-interlaced component video (YUVp) video inputs.			
Set a specific pixel sampling phase	Esc I X1 * X5 PHAS ←	PhasI X1 * X5 ↵	Specify the pixel sampling phase.
Increment sampling value	Esc I X1 + PHAS ←	PhasI X1 * X5 ↵	Increase the phase value.
Decrement sampling value	Esc I X1 – PHAS ←	PhasI X1 * X5 ↵	Decrease the phase value.
View the sampling value	Esc I X1 PHAS ←	X5 ↵	Show the pixel sampling phase.
Horizontal shift (available for inputs on an XTP CP 4i VGA universal analog input board only)			
Specify a horizontal position	Esc I X1 * X6 HCTR ←	HctrI X1 * X6 ↵	Set input X1 horizontal position to X6.
Increment right	Esc I X1 + HCTR ←	HctrI X1 * X6 ↵	Shift the X1 input right.
Decrement left	Esc I X1 – HCTR ←	HctrI X1 * X6 ↵	Shift the X1 input left.
View the horizontal position	Esc I X1 HCTR ←	X6 ↵	Show the horizontal position.
Vertical shift (available for inputs on an XTP CP 4i VGA universal analog input board only)			
Set a specific vertical position	Esc I X1 * X6 VCTR ←	VctrI X1 * X6 ↵	Set input X1 vertical position to X6.
Increment up	Esc I X1 + VCTR ←	VctrI X1 * X6 ↵	Shift the X1 input up.
Increment down	Esc I X1 – VCTR ←	VctrI X1 * X6 ↵	Shift the X1 input down.
View the vertical position	Esc I X1 VCTR ←	X6 ↵	Show the vertical position.

NOTE: X1 = Input number Ø1 – 16 or 32
X5 = Picture adjustments Ø through 255
X6 = Shift Ø through 65535

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
Analog input presets (available for inputs on an XTP CP 4i VGA universal analog input board only)			
NOTE: Analog input presets are a set of variables that can be saved. For the complete list, see the *XTP CrossPoint Switchers User Guide*.			
Save an analog input preset	X1*1*X7,	SprX1*1*X7↵	Command character is a comma.
Recall an analog input preset	X1*1*X7.	RprX1*1*X7↵	Command character is a period.
HDCP status			
View input HDCP status	EscIX1HDCP←	X8↵	
View HDCP status of all inputs	EscI*HDCP←	X8[1]X8[2]X8[3] ... X8[n]↵	
View output HDCP status	EscOX2HDCP←	X9↵	
View HDCP status of all outputs	EscO*HDCP←	X9[1]X9[2]X9[3]... X9[n]↵	
Video mutes			
Video mute	X2*1B	VmtX2*1↵	Mute output X2 (video off).
Video unmute	X2*ØB	VmtX2*Ø↵	Unmute output X2 (video on).
Read video mute	X2B	X10↵	1 = mute on, 0 = mute off.
Global video mute	1*B	Vmt1↵	Mute all video outputs.
Global video unmute	Ø*B	VmtØ↵	Unmute all video outputs.

NOTE:
- X1 = Input number — Ø1 – 16 or 32
- X2 = Output number — Ø1 – 16 or 32
- X7 = Analog input preset — 1 through 8
- X8 = HDCP status (for inputs) — Ø = no source connected; 1 = source is HDCP compliant; 2 = source is not HDCP compliant
- X9 = HDCP status (for outputs) — Ø, 2, 4, or 6 = no monitor connected; 1, 3, or 5 = monitor connected but not encrypted; 7 = monitor connected and encrypted
- X10 = Mute — Ø = off (unmuted); 1 = on (muted)

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
Input audio selection			
Input audio selection	EscIX1*X11AFMT←	AfmtIX1*X11↵	
Example:	EscI1*ØAFMT←	AfmtI1*Ø↵	**Auto (Ø)**: Digital audio takes priority over analog audio.
View input audio selection	EscIX1AFMT←	X11↵	
View input audio all selections	EscIAFMT←	X11[1]X11[2]X11[3]... X11[n]↵	Each X11 is the enable or disable status of an output, starting at output 1. *n* is 16 or 32.
Audio input gain and attenuation			
NOTE: The set gain (G) and set attenuation (g) commands are case sensitive.			
Set input level to +dB value	X1*X12G	InX1•AudX13↵	
Example:	1*2G	InØ1•Aud+Ø2↵	Set input 1 audio gain to +2 dB.
Set input level to -dB value	X1*X14g	InX1•AudX13↵	
Increment gain	X1+G	InX1•AudX13↵	Increase gain by 1 dB.
Example:	5+G	InØ5•Aud+Ø3↵	Increase audio input 5 level from +2 dB to +3 dB.
Decrement gain	X1–G	InX1•AudX13↵	Decrease gain by 1 dB.
Read input level	X1G	X13↵	

NOTE:
- • = Space
- X1 = Input number — Ø1 – 16 or 32
- X11 = Input audio source — Ø = Auto (see the example above); 1 = HDMI (de-embedded digital audio) (default); 2 = Analog (local 2-channel audio)
- X12 = Audio gain — Ø to +24 (1 dB per step)
- X13 = Numeric dB value — –18 to +24 (45 steps of gain or attenuation) (Default = Ø dB)
- X14 = Audio attenuation — 1 – 18 (1 dB per step)

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
Audio output volume			
Set the volume to a specific value	X2*X15V	OutX2•VolX15↵	
Example:	1*5Øv	Out Ø1•Vol5Ø↵	Set output 1 volume to 79%.
Increment volume	X2+V	OutX2•VolX15↵	Increase volume by 1 step.
Example:	1+V	Out Ø1•Vol51↵	
Decrement volume	X2–V	OutX2•VolX15↵	Decrease volume by 1 step.
Read output volume	X2V	X15↵	
Audio mutes			
Audio mute, HDMI	X2*1Z	AmtX2*1↵	Mute output X2 HDMI (embedded digital audio off).
Audio mute, analog	X2*2Z	AmtX2*2↵	Mute output X2 analog (analog audio off).
Audio mute, both	X2*3Z	AmtX2*3↵	Mute all output X2 audio (HDMI and analog audio off).
Audio unmute	X2*ØZ	AmtX2*Ø↵	Unmute output X2 (HDMI and analog audio on).
Read audio mute	X2Z	X10↵	1 = mute on, 0 = mute off.
Global audio mute, HDMI	1*Z	Amt1↵	Mute all embedded digital audio outputs.
Global audio mute, analog	2*Z	Amt2↵	Mute all analog audio outputs.
Global audio mute, both	3*Z	Amt3↵	Mute all embedded digital and analog audio outputs.
Global audio unmute	Ø*Z	AmtØ↵	Unmute all audio outputs.

NOTE: • = Space
X2 = Output number — Ø1 – 16 or 32
X10 = Mute — Ø = off (unmuted); 1 = HDMI on (HDMI muted); 2 = analog on (analog muted); 3 = HDMI and analog on (both muted)
X15 = Volume adjustment range — Ø – 64 (1 dB/step except for 0-to-1, which is 22 dB) (default = 64 [0 dB])

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
Captive screw and Ethernet serial port insertion enables (available for inputs and outputs on an XTP CP 4i and XTP CP 4o [XTP input and output] boards only)			
Enable an input captive screw serial port insertion	EscIX1*ØLRPT←	LrptIX1*Ø↵	Enable the captive screw serial port insert on input X1. This disables the Ethernet RS-232 insert.
Enable an input Ethernet serial port insertion	EscIX1*1LRPT←	LrptIX1*1↵	Enable the Ethernet serial port insert on input X1. This disables the captive screw serial port insert.
Set all RS-232 input insertions	EscI*X16*LRPT←	LrptIØØ*X16↵	
View input insertion	EscIX1LRPT←	X16↵	
View all input insertions	EscILRPT←	X16¹X16²X16³... X16ⁿ↵	One X16 for each installed input, starting at input 1. Inputs that are not on an XTP CP 4i board report as Ø.
Enable an output captive screw serial port insertion	EscOX2*ØLRPT←	LrptOX2*Ø↵	Enable the captive screw serial port insert on output X2. This disables the Ethernet serial port insert.
Enable an output Ethernet serial port insertion	EscOX2*1LRPT←	LrptOX2*1↵	Enable the Ethernet serial port insert on output X2. This disables the captive screw serial port insert.
Set all RS-232 output insertions	EscO*X16*LRPT←	LrptOØØ*X16↵	
View RS-232 output insertion	EscOX2LRPT←	X16↵	
View all output insertions	EscOLRPT←	X16¹X16²X16³... X16ⁿ↵	One X16 for each installed output, starting at output 1. Outputs that are not on an XTP CP 4o board report as Ø.

NOTE: X1 = Input number — Ø1 – 16 or 32
X2 = Output number — Ø1 – 16 or 32
X16 = Captive screw or UART — **Ø** = Captive screw RS-232 insert (**default**); 1 = Ethernet RS-232 insert (UART)

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
Ethernet serial port insert parameters (available for inputs and outputs on an XTP CP 4i and XTP CP 4o [XTP input and output] boards only)			
Set serial port parameters	Esc X17 * X18 , X19 , X20 , X21 CP ←	Cpn X17 • Ccp X18 , X19 , X20 , X21 ↵	
Read serial port parameters	Esc X17 CP ←	X18 , X19 , X20 , X21 ↵	
Configure current port timeout	Esc Ø * X22 TC ←	PtiØ * X22 ↵	
Read current port timeout	Esc ØTC ←	X22 ↵	
Configure global IP port timeout	Esc 1 * X22 TC ←	Pti1 * X22 ↵	
Read global IP port timeout	Esc 1TC ←	X22 ↵	
Set UART start point	Esc X23 MD ←	Pmd X23 ↵	Sets the initial (lowest) port number for the range of numbers assigned to the serial port and UARTs.
Read UART start point	Esc MD ←	X23 ↵	

NOTE:
- X17 = Port number — Ø3 — 36 = UARTs Input UARTs 1 — 32 = Ø3 — 34 Output UARTs 1 — 32 = 35 — 66
- X18 = Baud rate — **9600** (**default**), 19200, 38400, 115200
- X19 = Parity — **o**dd, **e**ven, **n**one, **m**ark, **s**pace (only the first letter is required) (**default = n**)
- X20 = Data bits — 7, **8** (**default**)
- X21 = Stop bits — **1** (**default**), 2
- X22 = Port timeout (10-sec. increments) — 1 (= 10 seconds) - 65000 (**default is 30 = 300 seconds = 5 minutes**)
- X23 = UART starting point — The starting point (X23) is the rear panel RS-232/RS-422 port.
  The next position (X23+1) is not used.
  X23+2 through X23+17 (XTP CrossPoint 1600) or X23+33 (XTP CrossPoint 3200) are XTP inputs.
  X23+34 through X23+49 (XTP CrossPoint 1600) or X23+65 (XTP CrossPoint 3200) are XTP outputs.
  Default values: 1999 = Rear panel remote RS-232/RS-422 port
  2000 is unused
  2001 through 2016 (XTP CrossPoint 1600) = Input 1 through 16
  2001 through 2032 (XTP CrossPoint 3200) = Input 1 through 32
  2033 through 2048 (XTP CrossPoint 1600) = Output 1 through 16
  2033 through 2064 (XTP CrossPoint 3200) = Output 1 through 32

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
View video and audio mutes			
View output mutes	Esc VM ←	X24[1] X24[2] ... X24[n] ↵	Each X24 response is the mute status of an output, starting from output 1. *n* = either 16 or 32.
Example : **(XTP CrossPoint 3200)**	Esc VM ←	Mut02201000000000000000000002000000 ↵	Audio is muted on outputs 2 and 3, video on output 5, and video and audio on output 26. All other outputs are unmuted.
List Digital Sync Validation Processing (DSVP)			
List sync of all inputs	ØLS	X25[1] X25[2] X25[3] ... X25[n] ↵	16 or 32 (n) X25s; each is the signal status of an input, starting from input 1.
Example ***(XTP CrossPoint 3200)*:**	ØLS	no input detected / input detected — Response Status: Ø Ø Ø 1 1 1 Ø . . . Ø ↵ — Input: 1 2 3 4 5 6 7 32	
Lock (Executive) modes			
NOTE: See **Setting the front panel locks (executive modes)** on page 18 for more information on the Lock modes.			
Lock all front panel functions	1X	Exe1 ↵	Enable Lock mode 1.
Lock advanced front panel functions	2X	Exe2 ↵	Enable Lock mode 2.
Unlock all front panel functions	ØX	Exe0 ↵	Enable Lock mode 0.
View lock status	X	X26 ↵	

NOTE:
- X24 = Video and audio mute status — 0 = no mutes; 1 = video mute; 2 = audio mute; 3 = video and audio mute
- X25 = Signal detection status — Ø = no input connected; 1 = input connected
- X26 = Lock mode — 0 = lock mode 0 (unlocked); 1 = lock mode 1; 2 = lock mode 2 (**default**)

Command	SIS Command (Host to Unit)	Response (Unit to Host)	Additional Description
Information requests			
Information request	I	V[X27]X[X28]•A[X27]X[X28]↵	In the response: V[X27]X[X28] is the video matrix size. A[X27]X[X28] is the audio matrix size.
Request part number	N	[X29]↵	See the Extron website, **www.extron.com**, for part numbers.
Request input/output board configuration	*N	[X29].[X30]¹[X30]² ... [X30]ⁿ[X31]¹[X31]² ... [X31]ⁿ↵	Part number, dot, 4 or 8 (ⁿ) [X30]s; each is the input board installed, starting from input slot 1, followed by 4 or 8 (ⁿ) [X31]s; each is the output board installed, starting from output slot 1.
Example (**XTP CrossPoint 3200**)	*N	60-1167-01.GGHFXFIHDDDEJXXM↵ (Input slot 6 = XTP CP 4i VGA; Input slot 3 = XTP CP 4i HDMI; Output slot 2 = XTP CP 4o (XTP); Output slot 7 = No Board; Input: 12345678; Output: 12345678)	
Query firmware version	Q	[X32]↵	
Example:	Q	1.23↵	The factory-installed controller firmware version is 1.23 (sample value only).

NOTE: • = Space

[X27] = Number (quantity) of inputs — 4, 8, 12, 16, 20, 24, 28, 32

[X28] = Number (quantity) of outputs — 4, 8, 12, 16, 20, 24, 28, 32

[X29] = Part number — 60-*nnnn*-01

[X30] = Installed input board — F = XTP CP 4i VGA; G = XTP CP 4i (TP); H = XTP CP 4i HDMI; I = XTP CP 4i DVI Pro; X = No board installed

[X31] = Installed output board — D = XTP CP 4o (TP); E = XTP CP 4o HDMI; J = XTP CP 4o DVI Pro; M = XTP CP 4o SA (stereo audio); X = No board installed

[X32] = Firmware version number to second decimal place (*x.xx*)

SIS Command and Response Table for XTP T HDMI

NOTE: These commands allow you to control and monitor the HDMI transmitter endpoint from the matrix switcher.

Command	SIS Command (Host to Unit to Endpoint)	Response (Endpoint to Unit to Host)	Additional Description
Audio routing selection			
NOTE: These commands select between the audio embedded in the digital video stream and the 2-channel analog audio.			
Input audio selection	Esc I[X1]*[X11]AFMT←	AfmtI[X1]*[X11]↵	
Example:	Esc I1*0AFMT←	AfmtI1*0↵	**Auto (0)**: HDMI (digital) takes priority over analog.
View input audio selection	Esc I[X1]AFMT←	[X11]↵	
View all input audio selections	Esc IAFMT←	[X11]¹[X11]²[X11]³ ... [X11]ⁿ↵	Each [X11] is the enable or disable status of an input, starting at input 1. *n* is 16 or 32.
Audio input gain and attenuation			
NOTE: The set gain (G) and set attenuation (g) commands are case sensitive.			
Set input level to +dB value	[X1]*[X12]G	In[X1]•Aud[X13]↵	
Example:	1*2G	In01•Aud+02↵	Set input 1 audio gain to +2 dB.
Set input level to -dB value	[X1]*[X14]g	In[X1]•Aud[X13]↵	
Increment gain	[X1]+G	In[X1]•Aud[X13]↵	Increase gain by 1 dB.
Example:	5+G	In05•Aud+03↵	Increase audio input 5 level from +2 dB to +3 dB.
Decrement gain	[X1]–G	In[X1]•Aud[X13]↵	Decrease gain by 1 dB.
Read input level	[X1]G	[X13]↵	

NOTE: • = Space

[X1] = Input number — 01 – 16 or 32

[X11] = Input audio source — 0 = Auto (see the example above); 1 = HDMI (de-embedded digital audio) (default); 2 = Analog (local 2-channel audio)

[X12] = Audio gain — 0 to +24 (1 dB per step)

[X13] = Numeric dB value — –18 to +24 (45 steps of gain or attenuation) (Default = 0 dB)

[X14] = Audio attenuation — 1 – 18 (1 dB per step)

Command	SIS Command (Host to Unit to Endpoint)	Response (Endpoint to Unit to Host)	Additional Description
List Digital Sync Validation Processing (DSVP)			
List sync of all inputs	ØLS	X25[1] X25[2] X25[3] ... X25[n] ↵	16 or 32 (n) X25s; each is the signal status of an input, starting from input 1.
Example (XTP CrossPoint 3200):	ØLS	no input detected / input detected Response Status: Ø Ø Ø 1 1 1 Ø . . . Ø ↵ Input: 1 2 3 4 5 6 7 32	
HDCP status			
View input HDCP status	Esc I X1 HDCP ←	X8 ↵	
View HDCP status of all inputs	Esc I*HDCP ←	X8[1] X8[2] X8[3] ... X8[n] ↵	

NOTE:
- X1 = Input number — Ø1 – 16 or 32
- X25 = Signal detection status — Ø = no input connected; 1 = input connected
- X8 = HDCP status (for inputs) — Ø = no source connected; 1 = Source is HDCP-compliant; 2 = Source is not HDCP compliant

SIS Command and Response Table for XTP R HDMI and XTP SR HDMI

NOTE: These commands allow you to control and monitor the HDMI receiver endpoint from the matrix switcher.

Command	SIS Command (Host to Unit to Endpoint)	Response (Endpoint to Unit to Host)	Additional Description
HDCP status			
View output HDCP status	Esc O X2 HDCP ←	X9 ↵	
View HDCP status of all outputs	Esc O*HDCP ←	X9[1] X9[2] X9[3]... X9[n] ↵	
Video mutes			
Video mute	X2*1B	Vmt X2*1 ↵	Mute output X2 (video off).
Video unmute	X2*ØB	Vmt X2*Ø ↵	Unmute output X2 (video on).
Read video mute	X2B	X10 ↵	1 = mute on, 0 = mute off.
Global video mute	1*B	Vmt1 ↵	Mute all video outputs.
Global video unmute	Ø*B	VmtØ ↵	Unmute all video outputs.
Audio output volume			
Set the volume to a specific value	X2*X15V	Out X2 •Vol X15 ↵	
Example:	1*5Øv	OutØ1•Vol5Ø ↵	Set output 1 volume to 79%.
Increment volume	X2+V	Out X2 •Vol X15 ↵	Increase volume by 1 step.
Example:	1+V	OutØ1•Vol51 ↵	
Decrement volume	X2–V	Out X2 •Vol X15 ↵	Decrease volume by 1 step.
Read output volume	X2V	X15 ↵	

NOTE:
- • = Space
- X2 = Output number — Ø1 – 16 or 32
- X10 = Mute — Ø = off (unmuted); 1 = on (muted)
- X15 = Volume adjustment range — Ø – 64 (1 dB/step except for 0-to-1, which is 22 dB) (default = 64 [0 dB])
- X9 = HDCP status (for outputs) — Ø, 2, 4, or 6 = No monitor connected; 1, 3, or 5 = Monitor connected but not encrypted; 7 = Monitor connected and encrypted

Command	SIS Command (Host to Unit to Endpoint)	Response (Endpoint to Unit to Host)	Additional Description
Audio mutes			
Audio mute, HDMI and S/PDIF	X2*1Z	AmtX2*1↵	Mute output X2 embedded digital (audio off).
Audio mute, analog	X2*2Z	AmtX2*2↵	Mute output X2 analog (analog audio off).
Audio mute, both	X2*3Z	AmtX2*3↵	Mute all output X2 audio (digital and analog audio off).
Audio unmute	X2*ØZ	AmtX2*Ø↵	Unmute output X2 (digital and analog audio on).
Read audio mute	X2Z	X10↵	1 = mute on, 0 = mute off.
Global audio mute, HDMI and S/PDIF	1*Z	Amt1↵	Mute all embedded digital audio outputs.
Global audio mute, analog	2*Z	Amt2↵	Mute all analog audio outputs.
Global audio mute, both	3*Z	Amt3↵	Mute all embedded digital and analog audio outputs.
Global audio unmute	Ø*Z	AmtØ↵	Unmute all audio outputs.
View video and audio mutes			
View output mutes	EscVM←	X33¹X33²… X33ⁿ↵	Each X33 response is the mute status of an output, starting from output 1. *n* = either 16 or 32.
Example : **(XTP CrossPoint 3200)**	EscVM← Mut0220100000000000000000000003000000↵		Audio is muted on outputs 2 and 3, video on output 5, and video and audio on output 26. All other outputs are unmuted.

NOTE: X2 = Output number Ø1 – 16 or 32
X10 = Mute Ø = off (unmuted) 1 = on (muted)
X33 = Video and audio mute Ø = no mute 1 = video mute 2 = audio mute 3 = video and audio mute

Command	SIS Command (Host to Unit to Endpoint)	Response (Endpoint to Unit to Host)	Additional Description
Relay controls			
Turn on an endpoint relay	EscX2*X34*1RELY←	RelyX2*X34*1↵	Turn on relay X34 in output X2.
Turn off an endpoint relay	EscX2*X34*ØRELY←	RelyX2*X34*Ø↵	Turn off relay X34 in output X2.
Toggle an endpoint relay	EscX2*X34*2RELY←	RelyX2*X34*2↵	Toggle (on-to-off or off-to-on) relay X34 in output X2.
Pulse an endpoint relay	EscX2*X34*3*X35RELY←	RelyX2*X34*3*X35↵	Turn on relay X34 in output X2 for an interval defined as X35. Each step of X35 is 16 ms.
Example:	Esc1*2*3*45RELY←	Rely1*2*3*45↵	Turn on relay 2 in output endpoint 1 for 720 ms (0.72 sec, X35 = 45 * 16 ms = 720 ms).
View an endpoint relay status	EscX2*X34RELY←	X36↵	On or off.

NOTE: X2 = Output number Ø1 – 16 or 32
X34 = Relay on endpoint 1 or 2
X35 = Pulse duration Ø through 65535 (each step = 16 ms, see the example above)
X36 = Relay status 0 = Off 1 = On

SIS Command and Response Table for XTP T USW 103

NOTE: These commands allow you to control and monitor the universal switcher endpoint from the matrix switcher.

Command	SIS Command (Host to Unit to Endpoint)	Response (Endpoint to Unit to Host)	Additional Description
Input video format (available for endpoint input 1 only)			
Set format	X1*X3\	Ityp X1*X3*X4 ↵	Set input 1 on endpoint X1 to X3 video format. The endpoint reports the detected video format, X4, in response.
Example:	1*Ø\	Ityp1*Ø*5 ↵	Set input 1 on endpoint 1 to auto. The endpoint reports RGB video.
View format	X1\	X3*X4 ↵	Show set (X3) and detected (X4) video format for input 1 on endpoint X1.
Image reset (available for endpoint input 1 only)			
Execute an image reset	X1A	Aadj X1 ↵	Reset input signal timing to Extron default for endpoint X1.

NOTE:
X1 = Input number — Ø1 – 16 or 32
X3 = Set input video format — Ø = Auto; 1 = Video; 2 = S-video; 3 = SCART; 4 = YUV interlace; 5 = RGB; 6 = YUV
X4 = Detected video format — Identical to X3, above, except Ø = no signal.

Command	SIS Command (Host to Unit to Endpoint)	Response (Endpoint to Unit to Host)	Additional Description
Horizontal shift (available for endpoint input 1 only)			
Specify a horizontal position	Esc I X1*X6HCTR ←	HctrI X1*X6 ↵	Set input X1 horizontal position to X6.
Increment right	Esc I X1+HCTR ←	HctrI X1*X6 ↵	Shift the X1 input right.
Decrement left	Esc I X1–HCTR ←	HctrI X1*X6 ↵	Shift the X1 input left.
View the horizontal position	Esc I X1HCTR ←	X6 ↵	Show the horizontal position.
Vertical shift (available for endpoint input 1 only)			
Set a specific vertical position	Esc I X1*X6VCTR ←	VctrI X1*X6 ↵	Set input X1 vertical position to X6.
Increment up	Esc I X1+VCTR ←	VctrI X1*X6 ↵	Shift the X1 input up.
Increment down	Esc I X1–VCTR ←	VctrI X1*X6 ↵	Shift the X1 input down.
View the vertical position	Esc I X1VCTR ←	X6 ↵	Show the vertical position.
Analog input presets			
NOTE: Analog input presets are a set of variables that can be saved. For the complete list, see the *XTP CrossPoint Switchers User Guide*.			
Save an analog input preset	X1*1*X7,	Spr X1*1*X7 ↵	Command character is a comma.
Recall an analog input preset	X1*1*X7.	Rpr X1*1*X7 ↵	Command character is a period.

NOTE:
X1 = Input number — Ø1 – 16 or 32
X6 = Shift — Ø through 65535
X7 = Analog input preset — 1 through 8

Command	SIS Command (Host to Unit to Endpoint)	Response (Endpoint to Unit to Host)	Additional Description
Input audio selection			
NOTE: These commands select between the audio embedded in the digital video stream and the 2-channel analog audio.			
Input audio selection	Esc I X1 * X11 AFMT ←	Afmt I X1 * X11 ↵	
Example:	Esc I 1 * Ø AFMT ←	Afmt I 1 * Ø ↵	**Auto (Ø)**: Digital audio takes priority over analog audio.
View input audio selection	Esc I X1 AFMT ←	X11 ↵	
View all input audio selections	Esc I AFMT ←	X11[1] X11[2] X11[3] ... X11[n] ↵	Each X11 is the enable or disable status of an output, starting at output 1. *n* is 16 or 32.
Audio input gain and attenuation			
NOTE: The set gain (G) and set attenuation (g) commands are case sensitive.			
Set input level to +dB value	X1 * X12 G	In X1 •Aud X13 ↵	
Example:	1*2G	InØ1•Aud+Ø2 ↵	Set input 1 audio gain to +2 dB.
Set input level to -dB value	X1 * X14 g	In X1 •Aud X13 ↵	
Increment gain	X1 +G	In X1 •Aud X13 ↵	Increase gain by 1 dB.
Example:	5+G	InØ5•Aud+Ø3 ↵	Increase audio input 5 level from +2 dB to +3 dB.
Decrement gain	X1 –G	In X1 •Aud X13 ↵	Decrease gain by 1 dB.
Read input level	X1 G	X13 ↵	

NOTE: • = Space
X1 = Input number — Ø1 – 16 or 32
X11 = Input audio source — Ø = auto (see the example above); 1 = HDMI (de-embedded digital audio) (**default**); 2 = Analog (local 2-channel audio)
X12 = Audio gain — Ø to +24 (1 dB per step)
X13 = Numeric dB value — –18 to +24 (45 steps of gain or attenuation) (Default = Ø dB)
X14 = Audio attenuation — 1 – 18 (1 dB per step)

Command	SIS Command (Host to Unit to Endpoint)	Response (Endpoint to Unit to Host)	Additional Description
List Digital Sync Validation Processing (DSVP)			
List sync of all inputs	ØLS	X25[1] X25[2] X25[3] ... X25[n] ↵	16 or 32 (n) X25s; each is the signal status of an input, starting from input 1.
Example (XTP CrossPoint 3200):	ØLS	no input detected / input detected Response Status: Ø Ø Ø 1 1 1 Ø . . . Ø ↵ Input: 1 2 3 4 5 6 7 32	

SIS Command and Response Table for IP-Specific Commands

NOTE: These commands allow you to control and monitor the IP functions of the XTP CrossPoint matrix switcher .

Command	SIS Command (host to unit)	Response (unit to host)	Additional Description
IP and serial port setup			
Set IP address	Esc X37 CI ←	Ipi X37 ↵	Default: 192.168.254.254
Read IP address	Esc CI ←	X37 ↵	
Set subnet mask	Esc X37 CS ←	Ips X37 ↵	Default: 255.255.Ø.Ø
Read subnet mask	Esc CS ←	X37 ↵	
Set gateway IP address	Esc X37 CG ←	Ipg X37 ↵	Default: Ø.Ø.Ø.Ø
Read gateway IP address	Esc CG ←	X37 ↵	
Set DHCP on or off	Esc X38 DH ←	Idh X38 ↵	Default: Ø (Off)
Read DHCP on/off status	Esc DH ←	X38 ↵	

NOTE: X25 = Signal detection status — Ø = no input connected; 1 = input connected
X37 = IP address — *nnn.nnn.nnn.nnn*
X38 = DHCP — Ø = off, 1 = on

XTP System Configuration Program

Another way to operate the switcher is via the Windows®-based XTP System Configuration software. For details on installing and operating the program, see the *XTP System Configuration Software Guide*.

Accessing the HTML Pages

NOTES:

- If your Ethernet connection to the matrix switcher is unstable, try turning off the proxy server in your web browser. In Microsoft Internet Explorer, click **Tools** > **Internet Options** > **Connections** > **LAN Settings**, uncheck the **Use a proxy server**... box, and then click **OK**.
- For details on operating the switcher via HTML pages, see the "HTML Operation" section in the *XTP CrossPoint 1600 and 3200 User Guide*.

1. Start the web browser program.
2. Click in the **Address** field.
3. Enter the Matrix IP address in the **Address** field.

   NOTE: 192.168.254.254 is the factory-specified default value for this field.

4. Press the keyboard <Enter> key. The switcher checks whether it is password-protected.

   If the switcher is not password-protected, it checks and downloads the HTML start-up page. The switcher is ready for operation via HTML remote control.

   If the switcher is password-protected, it downloads the Enter Network Password dialog box (see figure 10).

Figure 10. Network Password Dialog Box

NOTE: A User name entry is not required.

5. Enter the appropriate administrator or user password in the **Password** field and click **OK**.

   The switcher downloads the HTML start-up page (see figure 11). The switcher is ready for operation via HTML remote control.

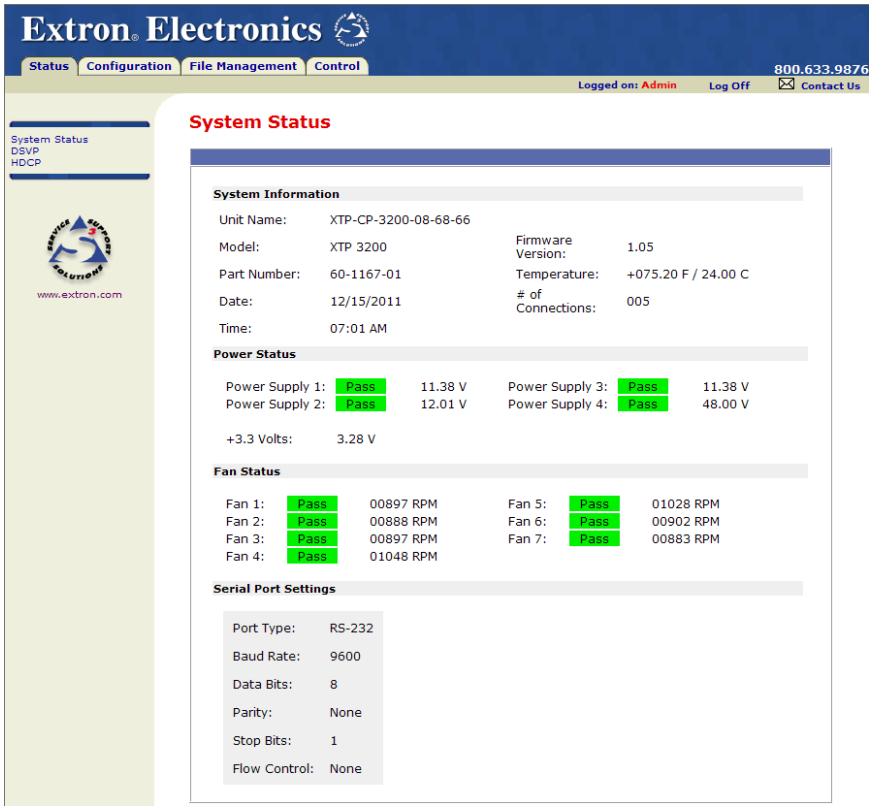


Figure 11. HTML Startup Page

Configuration

Removing and Installing a Board or Blank Panel

NOTES:

- For proper cooling and air flow, boards or blank panels should be installed in all locations during normal switcher operations.
- The input and output boards are hot-swappable. You do not need to power down the switcher to remove and install a board.

Circuit boards can be added or removed to increase or decrease the I/O configuration (size) of the switcher. Remove and replace an I/O board or blank panel as follows:

1. **For a board**, disconnect any connected cables.
2. Rotate the left and right knurled knobs to completely loosen the captive screws.
3. Gently pull on the knurled knobs to loosen the board or panel from the backplane.
4. Slide the board or panel out of the chassis (see **figure 12** on the next page).

ATTENTION: Do not touch the electronic components or the connectors on the backplane or on the circuit boards without being electrically grounded. Handle circuit boards by their edges only. Electrostatic discharge can damage circuits, even if you cannot feel, see, or hear it.

5. Place the removed board on an anti-static surface or in an anti-static container.
6. **For a board**, orient the board to be installed horizontally (XTP CrossPoint 1600) or vertically (XTP CrossPoint 3200) and so that the IN or OUT silkscreen on the back panel is right side up.
7. **For a board**, align the board with the left and right chassis guides (above).
8. Gently slide the board or blank panel into the enclosure. For a board, slide it toward the front panel until it meets resistance.
9. **For a board**, gently seat the board in the backplane.
10. Use a screwdriver to tighten the left and right knurled knobs to lock the board or panel in place.

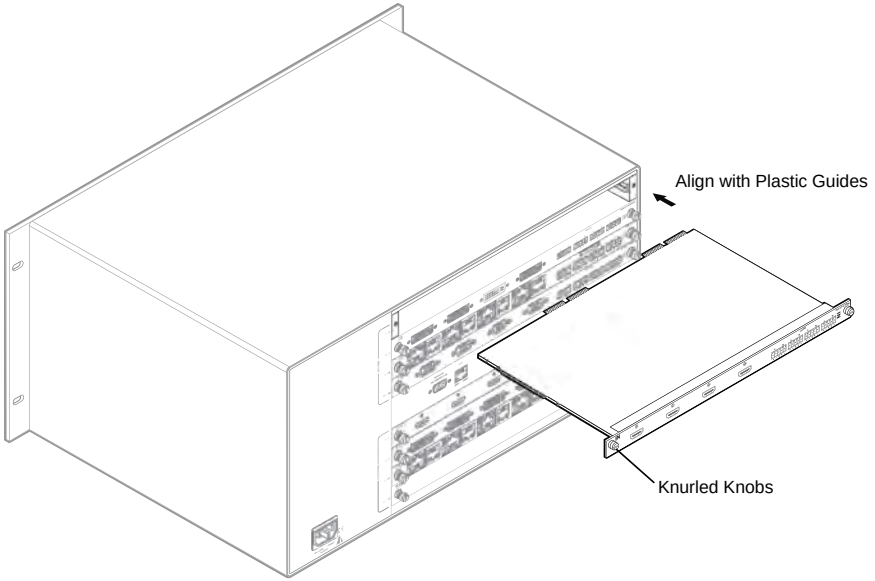


Figure 12. Board Removal and Installation

Extron Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

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NOTE: If a product is defective, please call Extron and ask for an application engineer to receive an RA (return authorization) number. This will begin the repair process.

USA: 714.491.1500 or 800.633.9876 **Europe**: 31.33.453.4040
Asia: 65.6383.4400 **Japan**: 81.3.3511.7655

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

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